

[US 010472]

Amendments to the Drawings:

The new drawing sheet featuring Figure 3 has been added.

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I. INTRODUCTION

Claims 4, 8, 9, 14 and 18-21 have been amended. The Specification has been amended. Figure 3 has been added. No new matter has been added. Thus, claims 1-24 remain pending in this application. Applicants thank the Examiner for allowing claims 22-24, and indicating claims 4, 8, 9 and 14 include allowable subject matter if rewritten in independent form. It is respectfully submitted that based on the above amendments and the following remarks that all of the presently pending claims are in condition for allowance.

II. THE 35 U.S.C. § 101 REJECTION SHOULD BE WITHDRAWN

The Examiner has rejected claims 18-20 under 35 U.S.C. § 101 as unpatentable because the claimed invention is directed to non-statutory subject matter. (See 11/14/06 Office Action, pp. 2-3). Applicant's have considered the Examiner's suggestion in amending the claims to define a "computer-readable medium, tangibly embodying a program of instructions" and respectfully submit that the claims in their amended form are directed to statutory subject matter. Thus, it is respectfully requested that the Examiner should withdraw the 35 U.S.C. § 101 rejection of claims 18-20.

III. THE 35 U.S.C. § 112 REJECTIONS SHOULD BE WITHDRAWN

The Examiner has rejected claims 18-20 under 35 U.S.C. § 112, First Paragraph as failing to comply with the enablement requirement. (See 11/14/06 Office Action, pp. 3-4). "Detailed procedures for making and using the invention may not be necessary if the description of the invention itself is sufficient to permit those skilled in the art to make and use the invention." (See MPEP §2164). Applicants respectfully submit that an ordinary person skilled in the art of face recognition methods using radial-base function networks would easily understand that computers may execute the instructions described and/or claimed in the claimed invention. Thus, it is

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respectfully requested that the Examiner withdraw the 35 U.S.C. § 112, First Paragraph rejections of claims 18-20.

The Examiner has rejected claim 21 under 35 U.S.C. § 112, Second Paragraph as being indefinite for lacking antecedent basis for "the applied rule." (See 11/14/06 Office Action, p. 4). Applicants respectfully submit that, in light of the above amendments, claim 21 satisfies the requirements of 35 U.S.C. § 112, Second Paragraph, and therefore, the Examiner's rejection should be withdrawn.

The Examiner has objected to the Drawings under 37 CFR 1.83(a) for failing to show every feature of the invention specified in the claims. Applicants have added new drawing sheet featuring Figure 3 in order to conform to originally filed claims 18-20. The new drawing sheet finds support on pages 5 and 16 of the Specification, and is supported by originally filed claims 18-20. No new matter has been entered. Applicants respectfully submit that in light of the above amendments the Examiner's objection to the drawings be withdrawn.

IV. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

The Examiner has rejected claims 1, 11, and 18 under 35 U.S.C. § 103(a) as unpatentable over the combination of Lorente et al. ("Lorente") (Face Recognition of Video Sequences in a MPEG-7 Context Using a Global Eigen Approach) and Kiminori Sato et al. ("Sato"), "Partial Face Recognition using Radial Basis Function Networks", IEEE, pp. 288-293, 1998. (See 11/14/06 Office Action, pp. 6-7). The Examiner also maintains the rejection of the 11/16/04 Office Action. (See 11/16/04 Office Action, pp. 3).

The Examiner asserts that Lorente and Sato, in combination, teach, "training a neural network classifier device for recognizing one or more facial images and obtaining corresponding learned models of the facial images used for training," and "identifying a single class result from said different portions input to said classifier," as recited in claim 1.

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Applicants respectfully submit that Lorente fails to teach or describe “a neural network classifier device” because it is limited to use of Principle Component Analysis for face recognition. (See Lorente, p. 187-88, Sect. 2; Fig. 2). In contrast to the claimed invention, the recognition stage of Lorente never identifies a single class result of the different portions of the facial image. Instead, Lorente merely describes an MPEG-7 test sequence that renders comparison results for each individual eigenfeature. (See Id., p. 190, Sect. 5; Table 1). Thus, since Lorente never identifies a single class result of all the individual eigenfeatures, it therefore fails to teach or describe the elements of claim 1.

The Examiner unsuccessfully cites Sato to cure the deficiency of Lorente. Applicants respectfully submit that Sato also fails to teach or describe “identifying a single class result from said different portions input to said classifier,” recited in claim 1. Sato uses a radial based function network in conjunction with threshold values to determine recognition of registered data. (See Sato, p. 290, Section 4). According to Sato, a registered partial face image is tested and an output vector is received. (See Id., p. 289, Section 2). However, the Sato reference only teaches that a successful partial-face recognition exists if the maximum value of the output vector is larger than a threshold value. (See Id.). Thus, Sato never describes identifying a single output vector representing all the different partial face images, and fails to cure the deficiencies of the Lorente reference.

Applicants respectfully submit that neither Lorente or Sato, either alone or in combination, teach “identifying a single class result from said different portions input to said classifier,” as recited in claim 1. Therefore, claim 1 should be made allowable. Further, claims 11 and 18 include substantially the same limitations as claim 1. Therefore, these claims should be made allowable for at least the same reasons cited above with respect to claim 1.

The Examiner has rejected claims 2-3, 5-7, 10, 12-13, 15-17 and 18 under 35 U.S.C. § 103(a) as unpatentable over the combination of Lorente and Sato and in further view of Gutta et al. (“Gutta”) (Mixture of Experts for Classification of Gender, Ethnic Origin, and Pose of Human Faces). (See 11/14/06 Office Action, p. 7).

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Applicants respectfully submit that Gutta fails to teach or describe, "identifying a single class result from said different portions input to said classifier," as recited in claim 1. The Gutta reference teaches an ensemble of radial basis functions (ERBFs) that produce output values receiving individual class labels. (See Gutta, p. 952, IV. B(1)). According to Gutta, the nine different outputs of the ERBF model are inputs to a judge, who decides whether the inputs belong to a class or not. (See *Id.*). Gutta describes classifying particular portions of facial images (i.e. gender, ethnic, and pose classifications.). (See Gutta, p. 954, VII). The Gutta reference never identifies a single class result based on the different classification portions inputted into the ERBF. Moreover, the judge of the ERBF architecture never identifies a single class from all the different individual class labels received in the ERBF network.

Thus, Applicants respectfully submit that Gutta fails to cure the deficiencies of Lorente and Sato and fails to render claim 1 obvious under 35 U.S.C. §103(a). In light of the arguments above, Applicants respectfully submit that claim 1 is allowable. Because claims 2-3, 5-7, and 10 depend from, and therefore include all the limitations of, claim 1, these claims should also be made allowable.

Claims 11 and 18 contain substantially the same limitations as claim 1, and are allowable for at least the reasons cited above with respect to claim 1. Because claims 12-13, 15-17 depend from, and therefore include all the limitations of, claim 11, these claims are also allowable. Similarly, because claims 19-20 depend from, and therefore include all the limitations of, claim 18, these claims are also allowable.

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CONCLUSION

In view of the above remarks, it is respectfully submitted that all the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

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